

ABSTRACT OF THE DISCLOSURE

5 A material for the storage of hydrogen is provided comprising single wall carbon
nanotubes (SWNT), wherein the majority of the diameters of the single wall carbon
nanotubes of the assembly range from 0.4 to 1.0 nanometers (nm), and the average
length is less than or equal to 1000 nm, or the diameters of the single wall carbon
nanotubes of the assembly range from 0.4 to 1.0 nanometers (nm), and the heat ($-\Delta H$) of
10 hydrogen adsorption of the material is within the range from 4 kcal/mole H_2 to 8
kcal/mole H_2 . Processes for the storage and release of hydrogen using the materials are
disclosed.

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